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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/043,532	01/11/2002	Matthew P.J. Baker	GB 010022	6232

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P.O. BOX 3001  
BRIARCLIFF MANOR, NY 10510

EXAMINER

DEAN, RAYMOND S

ART UNIT	PAPER NUMBER
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2618

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/12/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/043,532

Applicant(s)

BAKER ET AL.

Examiner

Raymond S. Dean

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15, 19, 20 and 25-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15, 19, 20 and 25-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1, 6, 10, and 20 have been considered but are moot in view of the new ground(s) of rejection.

Examiner respectfully disagrees with Applicants' assertion on Page 10, 2<sup>nd</sup> Paragraph of the Remarks "It is respectfully submitted that the examiner is factually wrong on ...". Willenegger teaches transmissions of sets of control information in the downlink (Section 0037) and in the uplink (Sections 0059 – 0060) thus Willenegger teaches bi-directional transmissions of sets of control information.

### **Regarding Applicants' assertion that the three basic criteria for establishing a *prima facie* case of obviousness are not met**

The motivation for combining Willenegger and Saifuddin comes from the Saifuddin reference itself, which is to provide optimum battery savings.

Willenegger and Saifuddin both teach a WCDMA system which uses soft handoff and closed loop power control thus Willenegger and Saifuddin are not contrary to one another. Willenegger and Saifuddin are combinable for the reasons set forth above regarding the motivation thus there is a reasonable expectation of success.

The combination of Willenegger and Saifuddin, as set forth in the Office Action dated July 27, 2006, teaches all of the claimed features in question.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 – 3, 6, 10, 12 – 15, 19 – 20, 25 – 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Willenegger (US 2002/0009061) in view of Saifuddin et al. (US 6,603,752).

Regarding Claim 1, Willenegger teaches a radio communication system having physical control channels arranged for the bi-directional transmission of sets of control information between a secondary station and a plurality of primary stations (Sections 0037, 0049 lines 1 – 6, CDMA systems have forward and reverse DPCHs thus there will be bi-directional transmissions of sets of control information), wherein respective closed-loop power control means are provided for individually adjusting the power of some or all physical control channels, or parts thereof, to which a set of control information is mapped (Sections 0040 – 0041 and 0055 – 0056, since there are parallel power control loops and soft handoff is conducted there is an inherent capability to control the power of a plurality of physical control channels between a plurality of base stations and the mobile station).

Willenegger does not teach said closed-loop power control means being utilized to select a subset of primary stations greater than one primary station, selected from the

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plurality of primary stations, for the transmission of data over at least one channel between the selected subset of primary stations and the secondary station.

Saifuddin teaches a closed-loop power control means being utilized to select a subset of primary stations greater than one primary station, selected from the plurality of primary stations, for the transmission of data over at least one channel between the selected subset of primary stations and the secondary station (Column 4 lines 25 – 28, typical WCDMA systems conduct soft handoff in which the mobile selects the candidate base stations based on a quality metric such as an SIR, the measurement of said SIR is a part of closed loop power control thus said measurement of the SIR is a closed loop power control means, during soft handoff data will be transmitted over at least one data channel, See Also Corbett et al. US 6,351,642, Cols. 1 lines 66 – 67, 2 lines 1 – 29).

Willenegger and Saifuddin both teach a WCDMA system that uses soft handoff thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Willenegger with the active set selection method and circuitry of Saifuddin as said method is an element in the soft handoff process used in WCDMA systems.

Regarding Claim 2, Willenegger in view of Saifuddin teaches all of the claimed limitations recited in Claim 1. Willenegger further teaches means for encoding each downlink physical control channel, or part thereof, to which a set of control information is mapped with a respective scrambling code to enable the associated primary station to be identified (Section 0034 lines 1 – 3, since this is a CDMA system there are inherent scrambling or PN codes that distinguish the base stations).

Regarding Claim 3, Willenegger in view of Saifuddin teaches all of the claimed limitations recited in Claim 1. Willenegger further teaches means for transmitting power control commands relating to each downlink physical control channel, or part thereof, to which a set of control information is mapped via a single time-multiplexed uplink physical channel (Section 0056).

Regarding Claim 6, Willenegger teaches a primary station for use in a radio communication system having physical control channels arranged for the bi-directional transmission of sets of control information between a secondary station and a plurality of primary stations (Sections 0037, 0049 lines 1 – 6, CDMA systems have forward and reverse DPCHs thus there will be bi-directional transmissions of sets of control information), wherein closed-loop power control means are provided for adjusting the power of some or all physical control channels between the plurality of primary stations and the secondary station, or parts thereof, to which a set of control information is mapped (Sections 0040 – 0041 and 0055 – 0056, since there are parallel power control loops and soft handoff is conducted there is an inherent capability to control the power of a plurality of physical control channels between a plurality of base stations and the mobile station).

Willenegger does not teach at least one data channel between a selected subset of primary stations greater than one primary station, selected from the plurality of primary stations, and the secondary station for the transmission of data over the at least one data channel, said closed-loop power control means being utilized to select the subset of primary stations.

Saifuddin teaches at least one data channel between a selected subset of primary stations greater than one primary station, selected from the plurality of primary stations, and the secondary station for the transmission of data over the at least one data channel, said closed-loop power control means being utilized to select the subset of primary stations (Column 4 lines 25 – 28, typical WCDMA systems conduct soft handoff in which the mobile selects the candidate base stations based on a quality metric such as an SIR, the measurement of said SIR is a part of closed loop power control thus said measurement of the SIR is a closed loop power control means, during soft handoff data will be transmitted over at least one data channel, See Also Corbett et al. US 6,351,642, Cols. 1 lines 66 – 67, 2 lines 1 – 29).

Willenegger and Saifuddin both teach a WCDMA system that uses soft handoff thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Willenegger with the active set selection method and circuitry of Saifuddin as said method is an element in the soft handoff process used in WCDMA systems.

Regarding Claim 10, Willenegger teaches a secondary station for use in a radio communication system having physical control channels arranged for the bi-directional transmission of sets of control information between the secondary station and a plurality of primary stations (Sections 0037, 0049 lines 1 – 6, CDMA systems have forward and reverse DPCHs thus there will be bi-directional transmissions of sets of control information), wherein closed-loop power control means are provided for adjusting individually the power of some or all physical control channels between the plurality of

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primary stations and the secondary station, or parts thereof, to which a set of control information is mapped (Sections 0040 – 0041 and 0055 – 0056, since there are parallel power control loops and soft handoff is conducted there is an inherent capability to control the power of a plurality of physical control channels between a plurality of base stations and the mobile station).

Willenegger does not teach at least one data channel between a selected subset of primary stations greater than one primary station, selected from the plurality of primary stations, and the secondary station for the transmission of data over the at least one data channel and said closed-loop power control means being utilized to select the subset of primary stations.

Saifuddin teaches at least one data channel between a selected subset of primary stations greater than one primary station, selected from the plurality of primary stations, and the secondary station for the transmission of data over the at least one data channel, said closed-loop power control means being utilized to select the subset of primary stations (Column 4 lines 25 – 28, typical WCDMA systems conduct soft handoff in which the mobile selects the candidate base stations based on a quality metric such as an SIR, the measurement of said SIR is a part of closed loop power control thus said measurement of the SIR is a closed loop power control means, during soft handoff data will be transmitted over at least one data channel, See Also Corbett et al. US 6,351,642, Cols. 1 lines 66 – 67, 2 lines 1 – 29).

Willenegger and Saifuddin both teach a WCDMA system that uses soft handoff thus it would have been obvious to one of ordinary skill in the art at the time the



invention was made to modify the system of Willenegger with the active set selection method and circuitry of Saifuddin as said method is an element in the soft handoff process used in WCDMA systems.

Regarding Claim 12, Willenegger in view of Saifuddin teaches all of the claimed limitations recited in Claim 10. Willenegger further teaches means for transmitting each set of uplink control information over a separate physical channel (Section 0055).

Regarding Claim 13, Willenegger in view of Saifuddin teaches all of the claimed limitations recited in Claim 12. Willenegger further teaches means for distinguishing the physical channels by use of different channelization codes (Section 0034 lines 1 – 3, since this is a CDMA system there are spreading codes for distinguishing the channels).

Regarding Claim 14, Willenegger in view of Saifuddin teaches all of the claimed limitations recited in Claim 12. Willenegger further teaches means for distinguishing two of the physical channels by transmitting a first physical channel, which uses the in-phase component of the carrier, and a second physical channel, which uses the quadrature-phase component of the carrier (Section 0034 lines 1 – 3, typical CDMA systems use QPSK modulation, which comprises in-phase and quadrature components).

Regarding Claim 15, Willenegger in view of Saifuddin teaches all of the claimed limitations recited in Claim 14. Willenegger further teaches means for interrupting an uplink physical control channel when uplink data transmission is required (Section 0034 lines 1 – 3, a typical CDMA system comprises control channels and data channels, transmission of data occurs a plurality of different times in CDMA systems thus there

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will be interruption of the uplink physical control channels when uplink data transmission is required).

Regarding Claim 19, Willenegger in view of Saifuddin teaches all of the claimed limitations recited in Claim 10. Willenegger further teaches means for achieving the time multiplexing by including separate power control relating to each primary station with which sets of control information are exchanged in a single physical control channel (Section 0056).

Regarding Claim 20, Willenegger teaches a method of operating a radio communication system arranging physical control channels for the bi-directional transmission of sets of control information between a secondary station and a plurality of primary stations (Sections 0037, 0049 lines 1 – 6, CDMA systems have forward and reverse DPCHs thus there will be bi-directional transmissions of sets of control information), operating respective closed-loop power control means for individually adjusting the power of some or all physical control channels, or parts thereof, to which a set of control information is mapped (Sections 0040 – 0041 and 0055 – 0056, since there are parallel power control loops and soft handoff is conducted there is an inherent capability to control the power of a plurality of physical control channels between a plurality of base stations and the mobile station).

Willenegger does not teach arranging at least one data channel between a selected subset of primary stations greater than one primary station, selected from the plurality of primary stations, and the secondary station for the transmission of data over

the at least one data channel and control information mapped to select the subset of primary stations.

Saifuddin teaches arranging at least one data channel between a selected subset of primary stations greater than one primary station, selected from the plurality of primary stations, and the secondary station for the transmission of data over the at least one data channel, said closed-loop power control means being utilized to select the subset of primary stations (Column 4 lines 25 – 28, typical WCDMA systems conduct soft handoff in which the mobile selects the candidate base stations based on a quality metric such as an SIR, the measurement of said SIR is a part of closed loop power control thus said measurement of the SIR is a closed loop power control means, during soft handoff data will be transmitted over at least one data channel, See Also Corbett et al. US 6,351,642, Cols. 1 lines 66 – 67, 2 lines 1 – 29).

Willenegger and Saifuddin both teach a WCDMA system that uses soft handoff thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Willenegger with the active set selection method and circuitry of Saifuddin as said method is an element in the soft handoff process used in WCDMA systems.

Regarding Claim 25, Willenegger in view of Saifuddin teaches all of the claimed limitations recited in Claim 10. Willenegger further teaches means for transmitting each set of uplink control information in a time-multiplexed manner over a single physical channel (Section 0056, since the power control commands are time multiplexed there will be a power control command for the downlink power control of each participating

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base station, for example consider the scenario of two base stations, there will be two power control commands (one power control command for base station 1 and one power control command for base station 2) that are time multiplexed, each base station would respond to every other power control command thus enabling the rate of transmission of said power control commands to be reduced to half the original rate, which is in proportion to the number of base stations, which is 2).

Regarding Claim 26, Willenegger in view of Saifuddin teaches all of the claimed limitations recited in Claim 25. Willenegger further teaches means for achieving the time-multiplexing by reducing the rate of transmission of power control commands (Section 0056, since the power control commands are time multiplexed there will be a power control command for the downlink power control of each participating base station, for example consider the scenario of two base stations, there will be two power control commands (one power control command for base station 1 and one power control command for base station 2) that are time multiplexed, each base station would respond to every other power control command thus enabling the rate of transmission of said power control commands to be reduced to half the original rate, which is in proportion to the number of base stations, which is 2).

Regarding Claim 27, Willenegger in view of Saifuddin teaches all of the claimed limitations recited in Claim 26. Willenegger further teaches wherein the reduction in rate is in proportion to a number greater than or equal to the number of primary stations with which sets of control information are exchanged (Section 0056, since the power control commands are time multiplexed there will be a power control command for the downlink

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power control of each participating base station, for example consider the scenario of two base stations, there will be two power control commands (one power control command for base station 1 and one power control command for base station 2) that are time multiplexed, each base station would respond to every other power control command thus enabling the rate of transmission of said power control commands to be reduced to half the original rate, which is in proportion to the number of base stations, which is 2).

4. Claims 4 – 5, 7, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Willenegger (US 2002/0009061) in view of Saifuddin et al. (US 6,603,752), as applied to Claims 1, 6, 10 above, and further in view of Mohebbi et al. (US 6,862,449).

Regarding Claim 4, Willenegger in view of Saifuddin teaches all of the claimed limitations recited in Claim 1. Willenegger in view of Saifuddin does not teach means responsive to requests from the secondary station for selecting the primary station connected to the data channel.

Mohebbi teaches means responsive to requests from the secondary station for selecting the primary station connected to the data channel (Column 17 lines 25 – 28).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Willenegger in view of Saifuddin with the candidate selection circuitry of Mohebbi for the purpose of improving signal transmission between the mobile station and the network when said mobile station is located in regions of cell overlap near the boundaries of individual cells while also

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reducing the interference associated with the soft-handoff operation as taught by Mohebbi.

Regarding Claim 5, Willenegger in view of Saifuddin teaches all of the claimed limitations recited in Claim 1. Willenegger in view of Saifuddin does not teach means for establishing a plurality of communication links between a primary station and the secondary station, for determining which of the primary stations comprise selected primary stations, and for determining which of the communication links are selected.

Mohebbi teaches means for establishing a plurality of communication links between a primary station and the secondary station (Figure 5), for determining which of the primary stations comprise selected primary stations, and for determining which of the communication links are selected (Columns: 4 lines 41 – 67, 5 lines 1 – 2, 6 lines 34 – 40, 16 lines 62 – 67, 17 lines 1 – 7).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Willenegger in view of Saifuddin with the candidate selection circuitry of Mohebbi for the purpose of improving signal transmission between the mobile station and the network when said mobile station is located in regions of cell overlap near the boundaries of individual cells while also reducing the interference associated with the soft-handoff operation as taught by Mohebbi.

Regarding Claim 7, Willenegger in view of Saifuddin teaches all of the claimed limitations recited in Claim 6. Willenegger in view of Saifuddin does not teach means

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for acquiring or releasing a data channel in response to changing radio link conditions, to become or cease to be a selected primary station.

Mohebbi further teaches means for acquiring or releasing a data channel in response to changing radio link conditions, to become or cease to be a selected primary station (Columns: 16 lines 62 – 67, 17 lines 1 – 7).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Willenegger in view of Saifuddin with the candidate selection circuitry of Mohebbi for the purpose of improving signal transmission between the mobile station and the network when said mobile station is located in regions of cell overlap near the boundaries of individual cells while also reducing the interference associated with the soft-handoff operation as taught by Mohebbi.

Regarding Claim 11, Willenegger in view of Saifuddin teaches all of the claimed limitations recited in Claim 10. Willenegger in view of Saifuddin does not teach means for determining which of the primary stations comprise the selected primary station in response to changing radio link conditions.

Mohebbi further teaches means for determining which of the primary stations comprise the selected primary station or stations in response to changing radio link conditions (Columns: 16 lines 62 – 67, 17 lines 1 – 7).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Willenegger with the candidate selection circuitry of Mohebbi for the purpose of improving signal transmission between the

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mobile station and the network when said mobile station is located in regions of cell overlap near the boundaries of individual cells while also reducing the interference associated with the soft-handoff operation as taught by Mohebbi.

5. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Willenegger (US 2002/0009061) in view of Saifuddin et al. (US 6,603,752) as applied to Claim 6 above, and further in view of Baum et al. (US 6,385,462)

Regarding Claim 8, Willenegger in view of Saifuddin teaches all of the claimed limitations recited in Claim 6. Willenegger in view of Saifuddin does not teach means for determining operational parameters of the data channel depending on the power level of a physical control channel, or part thereof, to which a set of control information is mapped.

Baum teaches means for determining operational parameters of the data channel depending on the power level of a physical control channel, or part thereof, to which a set of control information is mapped (Column 4 lines 22 – 28, the MCR is an operational parameter).

It would have been obvious to one ordinary skill in the art at the time the invention was made to use the MCR taught above in Baum in the CDMA system of Willenegger in view of Saifuddin for the purpose of implementing an adaptive power allocation, which can achieve high system capacity, and system coverage as taught by Baum.



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Regarding Claim 9, Willenegger in view of Saifuddin and in further view of Baum teaches all of the claimed limitations recited in Claim 8. Baum further teaches at least one of modulation and coding schemes (Column 4 lines 22 – 28).

### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

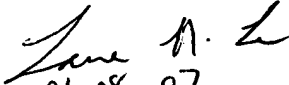
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

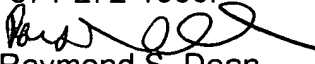
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond S. Dean whose telephone number is 571-272-7877. The examiner can normally be reached on Monday-Friday 6:00-2:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F. Urban can be reached on 571-272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
01-08-07  
LANA LE  
PRIMARY EXAMINER

  
Raymond S. Dean  
December 26, 2006